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CLAIMS

We claim:

1. A method of communication, using the Remote Procedure Call model, between a first object located on a first computer and a second object located on a second computer, the first and second objects conforming to the Distributed Component Object Model, the first and second computers connected by a network, the method comprising: calling an interface of the second object by the first object using an interface pointer identifier; performing RPC utility functions on the call at the second computer; passing the interface call to a DCOM dispatching function; invoking a stub; and accessing an interface of the second object pointed to by the interface pointer identifier.

2. The method of claim 1 wherein the calling of the interface comprises: posting, on the first computer, a first receive buffer prior to sending a first data to the second computer, wherein the first receive buffer will receive a second data from the second computer; and sending the first data to the second computer.

3. The method of claim 2 wherein the calling further comprises: cleaning up, on the first computer, a second receive buffer after sending the first data to the second computer and prior to receiving the second data from the second computer.

4. The method of claim 3 wherein the second receive buffer was posted prior to the first receive buffer.

5. The method of claim 2 wherein the calling further comprises: cleaning up, on the first computer, a send buffer after sending the first data to the second computer and prior to receiving the second data from the second computer.

6. The method of claim 5 wherein the send buffer was used to send the first data to the second computer.

7. The method of claim 2 wherein the second data from the second computer is in response to the first data from the first computer.

8. The method of claim 1 wherein the first computer has a first memory location and a buffer, and access to the network through an interface card on the first computer, the method further comprising: placing in the buffer a copy of a first pointer to a first parameter, wherein the first parameter is used in the calling of the interface of the second object and wherein the first pointer points to the first parameter in the first memory location; and transmitting, by the network interface card, the first parameter pointed to by the first pointer by reading the first parameter out of the first memory location.

9. The method of claim 8 further comprising issuing a notification on the first computer after the network interface card has finished reading the first parameter out of the first memory location.

10. The method of claim 9 further comprising reclaiming the first memory location after receiving the notification.

11. The method of claim 8 further comprising: placing in the buffer a copy of the first pointer to the first parameter and a copy of a second pointer to a second parameter, wherein the second parameter is used in the calling of the interface of the second object and wherein the second pointer points to the second parameter in a second memory location on the first computer; and transmitting, by the network interface card, the first parameter pointed to by the first pointer by reading the parameter out of the first memory location and the second parameter pointed to by the second pointer by reading the second parameter out of the second memory location.

12. The method of claim 11 further comprising issuing a first notification on the first computer after the network interface card has finished reading the first parameter out of the first memory location and issuing a second notification on the first computer after the network interface card has finished reading the second parameter out of the second memory location.

13. The method of claim 12 further comprising reclaiming the first memory location after receiving the first notification.

14. The method of claim 13 further comprising reclaiming the second memory location after receiving the second notification.

15. The method of claim 8 wherein the transmitting comprises: posting, on the first computer, a first receive buffer prior to sending a first data to the second computer, wherein the first receive buffer will receive a second data from the second computer; and sending the first data to the second computer.

16. The method of claim 15 wherein the transmitting further comprises: cleaning up, on the first computer, a second receive buffer after sending the first data to the second computer and prior to receiving the second data from the second computer.

17. The method of claim 16 wherein the second receive buffer was posted prior to the first receive buffer.

18. The method of claim 15 wherein the transmitting further comprises: cleaning up, on the first computer, a send buffer after sending the first data to the second computer and prior to receiving the second data from the second computer.

19. The method of claim 18 wherein the send buffer was used to send the first data to the second computer.

20. The method of claim 15 wherein the second data from the second computer is in response to the first data from the first computer.

21. The method of claim 1 wherein the second computer has a memory storage location and a buffer, and access to the network through a network interface card on the second computer, the method further comprising: receiving a call from the first object on the interface of the second object; receiving, by the network interface card, a parameter of the call from the first object; storing the parameter in a memory location; and accessing, by the second object, the parameter.

22. The method of claim 21 wherein the memory location is the buffer.

23. The method of claim 22 wherein the accessing the parameter is performed in the buffer

24. The method of claim 22 further comprising copying the parameter from the buffer into the memory storage location, wherein the accessing the parameter is performed in the memory storage location.

25. The method of claim 21 wherein the memory location is the memory storage location, and wherein the accessing the parameter is performed in the memory storage location.

26. The method of claim 21 wherein the receiving comprises: storing, on the second computer, a second data into a first receive buffer, wherein the first receive buffer was posted prior to sending a first data to the first computer.

27. The method of claim 26 wherein the first data to the first computer was sent prior to receiving the second data from the first computer.

28. The method of claim 26 wherein the receiving further comprises: cleaning up, on the second computer, a send buffer after sending the first data to the first computer and prior to receiving the second data from the first computer.

29. The method of claim 28 wherein the send buffer was used to send the first data to the first computer.

30. The method of claim 26 wherein the receiving further comprises: cleaning up, on the second computer, a second receive buffer after sending the first data to the first computer and prior to receiving the second data from the first computer.

31. A computer-readable medium having computer-executable instructions for performing steps for communicating, using the Remote Procedure Call model, between a first object located on a first computer and a second object located on a second computer, the first and second objects conforming to the Distributed Component Object Model, the first and second computers connected by a network, the steps comprising: calling an interface of the second object by the first object using an interface pointer identifier; performing RPC utility functions on the call at the second computer; passing the interface

call to a DCOM dispatching function; invoking a stub; and accessing an interface of the second object pointed to by the interface pointer identifier.

32. The computer-readable medium of claim 31 wherein the calling of the interface comprises: posting, on the first computer, a first receive buffer prior to sending a first data to the second computer, wherein the first receive buffer will receive a second data from the second computer; and sending the first data to the second computer.

33. The computer-readable medium of claim 32 wherein the calling further comprises: cleaning up, on the first computer, a second receive buffer after sending the first data to the second computer and prior to receiving the second data from the second computer.

34. The computer-readable medium of claim 33 wherein the second receive buffer was posted prior to the first receive buffer.

35. The computer-readable medium of claim 32 wherein the calling further comprises: cleaning up, on the first computer, a send buffer after sending the first data to the second computer and prior to receiving the second data from the second computer.

36. The computer-readable medium of claim 35 wherein the send buffer was used to send the first data to the second computer.

37. The computer-readable medium of claim 32 wherein the second data from the second computer is in response to the first data from the first computer.

38. The computer-readable medium of claim 31, wherein the first computer has a first memory location and a buffer, and access to the network through an interface card on the first computer, having further computer-executable instructions for performing steps comprising: placing in the buffer a copy of a first pointer to a first parameter, wherein the first parameter is used in the calling of the interface of the second object and wherein the first pointer points to the first parameter in the first memory location; and transmitting, by the network interface card, the first parameter pointed to by the first pointer by reading the first parameter out of the first memory location.

39. The computer-readable medium of claim 38 having further computer-executable instructions for performing steps comprising: issuing a notification on the first computer after the network interface card has finished reading the first parameter out of the first memory location.

40. The computer-readable medium of claim 39 having further computer-executable instructions for performing steps comprising: reclaiming the first memory location after receiving the notification.

41. The computer-readable medium of claim 38 having further computer-executable instructions for performing steps comprising: placing in the buffer a copy of

the first pointer to the first parameter and a copy of a second pointer to a second parameter, wherein the second parameter is used in the calling of the interface of the second object and wherein the second pointer points to the second parameter in a second memory location on the first computer; and transmitting, by the network interface card, the first parameter pointed to by the first pointer by reading the parameter out of the first memory location and the second parameter pointed to by the second pointer by reading the second parameter out of the second memory location.

42. The computer-readable medium of claim 41 having further computer-executable instructions for performing steps comprising: issuing a first notification on the first computer after the network interface has finished reading the first parameter out of the first memory location and issuing a second notification on the first computer after the network interface card has finished reading the second parameter out of the second memory location.

43. The computer-readable medium of claim 42 having further computer-executable instructions for performing steps comprising: reclaiming the first memory location after receiving a notification.

44. The computer-readable medium of claim 43 having further computer-executable instructions for performing steps comprising: reclaiming the second memory location after receiving the second notification.

45. The computer-readable medium of claim 38 wherein the transmitting comprises: posting, on the first computer, a first receive buffer prior to sending a first data to the second computer, wherein the first receive buffer will receive a second data from the second computer; and sending the first data to the second computer.

46. The computer-readable medium of claim 45 wherein the transmitting further comprises: cleaning up, on the first computer, a second receive buffer after sending the first data to the second computer and prior to receiving the second data from the second computer.

47. The computer-readable medium of claim 46 wherein the second receive buffer was posted prior to the first receive buffer.

48. The computer-readable medium of claim 45 wherein the transmitting further comprises: cleaning up, on the first computer, a send buffer after sending the first data to the second computer and prior to receiving the second data from the second computer.

49. The computer-readable medium of claim 48 wherein the send buffer was used to send the first data to the second computer.

50. The computer-readable medium of claim 45 wherein the second data from the second computer is in response to the first data from the first computer.

51. The computer-readable medium of claim 31, wherein the second computer has a memory storage location and a buffer, and access to the network through a network interface card on the second computer, having further computer-executable instructions for performing steps comprising: receiving a call from the first object on the interface of the second object; receiving, by the network interface card, a parameter of the call from the first object; storing the parameter in a memory location; and accessing, by the second object, the parameter.

52. The computer-readable medium of claim 51 wherein the memory location is the buffer.

53. The computer-readable medium of claim 52 wherein accessing the parameter is performed in the buffer.

54. The computer-readable medium of claim 52 having further computer-executable instructions for performing steps comprising: copying the parameter from the buffer into the memory storage location, wherein the accessing the parameter is performed in the memory storage location.

55. The computer-readable medium of claim 51 wherein the memory location is the memory storage location, and wherein the accessing the parameter is performed in the memory storage location.

56. The computer-readable medium of claim 51 wherein the receiving comprises: storing, on the second computer, a second data into a first receive buffer, wherein the first receive buffer was posted prior to sending a first data to the first computer.

57. The computer-readable medium of claim 56 wherein the first data to the first computer was sent prior to receiving the second data from the first computer.

58. The computer-readable medium of claim 56 wherein the receiving further comprises: cleaning up, on the second computer, a send buffer after sending the first data to the first computer and prior to receiving the second data from the first computer.

59. The computer-readable medium of claim 58 wherein the send buffer was used to send the first data to the first computer.

60. The computer-readable medium of claim 54 wherein the receiving further comprises: cleaning up, on the second computer, a second receive buffer after sending the first data to the first computer and prior to receiving the second data from the first computer.